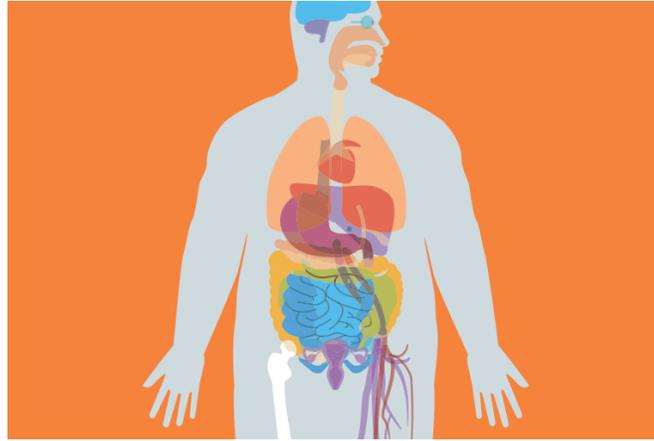


THE SIGNIFICANT LINK BETWEEN OBESITY AND CANCER

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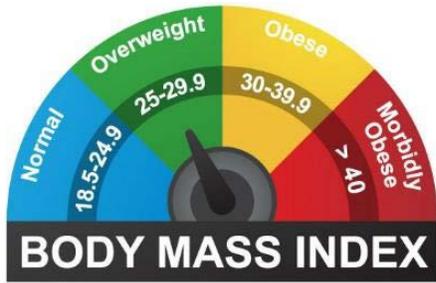


INTRODUCTION

A plethora of information has become available that makes it impossible to ignore the very disturbing fact that there is a strong and significant link between the state of morbid obesity and the development of cancer in one's lifetime. As many as one-fifth of cancer deaths (20%) in the United States are associated with obesity (1, 2). We can no longer ignore the fact that morbidly obese people get more cancers, worse cancers, and die faster than people who are not morbidly obese.

The International Agency for Research into Cancer (IARC) and the World Cancer Research Fund (WRCF) reports obesity is associated most commonly with the following types of cancers: uterine, esophageal, colon and rectum, breast, prostate, and kidney. Less common sites and cancer types associated with obesity are malignant melanoma, thyroid cancer, leukemia, lymphoma, and multiple myeloma (3).

Even more shocking is the fact that in a study entitled The Million Women Study, half of all cancers in postmenopausal women were felt to be associated with obesity (4). This is an astounding statistic. These facts should make all of us take notice and regard morbid obesity not only as an undesirable cosmetic entity but one that is potentially able to shorten your life.



BMI -A MEASURE OF OBESITY ASSOCIATED WITH BARIATRIC SURGERY

Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women (6). Using the calculator in the above reference 6 from the National Institutes of Health is easy. Just put in your height and weight in the appropriate spot and you get a number. Anything over 30 is considered obesity. Bariatric weight loss surgery is typically considered for individuals with a BMI over 35 or 40 who have not been successful in losing weight by more conventional methods such as diet and exercise or at 35 for those who have already developed medical problems as a result of their obesity.

THE SIGNIFICANCE OF BODY FAT DISTRIBUTION

With regard to the development of cancer and metabolic illnesses such as diabetes, body fat distribution is important. Abdominal fat or fat around the midsection is more likely to result in not only metabolic diseases such as adult onset diabetes but is also more closely associated with the development of cancer (6, 7, 8, 9). A

subsection of patients from the famous Framingham Heart Study was analyzed for associated illnesses and the results clearly showed that visceral adiposity or fat around the midsection had a close association with the development of cancer even after adjusting for other risk factors (10).

That “spare tire” around the midsection is therefore more than just a negative cosmetic entity. Statistics like those in the paragraph above provide incentive to pursue a lifestyle incorporating exercise and appropriate diet. People who are morbidly obese and have failed to lose weight by more conventional methods may be candidates for bariatric surgery.



HIGHER MORTALITY RATE FROM CANCER IN OBESE PEOPLE

A significant study published in the New England Journal of Medicine in 2003 clearly showed that death rates in many cancers are accelerated in patients who are extremely obese. In addition, obesity was felt to be a causative factor in 20% of female and 14% of male deaths (11).

The higher cancer death rate noted in association with morbid obesity may be due to the fact that some of the deadly tumors were found to be of a more advanced and therefore deadly microscopic (histological) grade. More malignant tumors were found to be in association with obesity (13). A startling theory was put forth by some that indicated that the chemotherapy doses utilized to treat some of these tumors may not have been sufficient in view of the patient's obesity (14).

Aside from smoking, the authors at that time felt that the cancers associated with morbid obesity were felt to be the most avoidable by lifestyle and dietary changes. Since that time however The United States and other countries such as Mexico have gone in the wrong direction and the incidence of morbid obesity has risen significantly, not decreased.

A sedentary lifestyle lacking in aerobic activity has resulted in sicker and fatter Americans. It appears that the pendulum is now swinging in the opposite direction but our society is still experiencing the negative health consequences from years of physical inactivity (12).

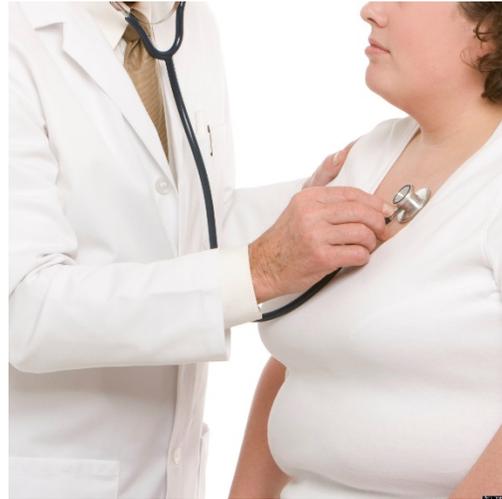
THE ROLE OF INSULIN RESISTANCE

Insulin is a hormone produced by the pancreas. The role of insulin is to lower our blood glucose and keep our bodies in homeostasis or balance. Some people have a condition called insulin *resistance* in which our bodies don't respond as they should to insulin resulting in an elevated blood sugar level. Our bodies then react by secreting more insulin in an attempt to rectify the problem.

In addition to the development of Type 2 diabetes, the higher insulin levels have been correlated in many cases with the development and increased aggressiveness of certain cancers. Some of the cancers known to be affected by this mechanism are breast, uterine, colon, rectum, and pancreatic (9). A higher mortality is clearly associated with a more aggressive tumor.

DOES BARIATRIC SURGERY HELP?

It is clear that obesity has a strong association with a variety of cancers. Many studies have been done to determine if bariatric surgery may improve the chances of not getting cancer if all conventional methods of weight loss have failed. Although earlier studies were done to examine this and were inconclusive, a recent multicenter study reveals that there was a lower risk of obesity related cancers (especially breast, uterine, and colon) in those patients who have had the surgery when all conventional methods of weight loss failed (15, 16).



CONCLUSION

It is important to take note of the frequency and severity of deadly cancers in the morbidly obese population. This condition must be regarded as far from just a cosmetic issue. It has the ability to not only decrease quality of life but cause a person to die earlier because of the cancers associated with it. All efforts must be made to educate the public regarding this potential threat that not only changes your lifestyle but may shorten your lifespan.

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